CLAIMS

1.   An apparatus for a radio communication system (100) comprising:
      means for receiving an access message transmitted from a subscriber
5 unit (101) to a base station (103);
      means (111) for determining an interference characteristic associated
with the subscriber unit; and
      means (113) for determining a resource requirement for achieving a
desired signal to interference ratio in response to the interference
10 characteristic.

2.   An apparatus as claimed in claim 1 wherein the means for determining
the interference characteristic is operable to determine a distance
characteristic indicative of a distance between the subscriber unit and the base
15 station and to determine the interference characteristic in response to the
distance characteristic.

3.   An apparatus as claimed in claim 2 wherein the means for determining
the interference characteristic is operable to determine the distance
20 characteristic in response to a propagation delay associated with a
communication between the subscriber unit and the base station.

4.   An apparatus as claimed in claim 2 or 3 wherein the distance
characteristic comprises a ratio between an estimated distance between the
25 subscriber unit and the base station and a cell radius associated with the base
station.

5.   An apparatus as claimed in any of the previous claims 2 to 4 wherein
the means for determining the interference characteristic is operable to
30 determine the interference characteristic in response to a predetermined

variation of the interference characteristic as a function of the distance characteristic.

6.   An apparatus as claimed in claim 5 wherein the predetermined function
5   is a substantially linear function.

7.   An apparatus as claimed in any of the previous claims 2 to 6 wherein the means for determining the interference characteristic is operable to determine the interference characteristic in response to empirical data
10 indicating an association between the interference characteristic and the distance characteristic

8.   An apparatus as claimed in any of the previous claims 2 to 7 wherein the means for determining the interference characteristic is operable to
15 determine the interference characteristic in response to simulation data indicating an association between the interference characteristic and the distance characteristic

9.   An apparatus as claimed in any previous claim wherein the apparatus
20 further comprises means for receiving signal measurement data from the subscriber unit and the means for determining the interference characteristic is operable to determine the interference characteristic in response to the signal measurement data.

25 10.   An apparatus as claimed in claim 9 wherein the signal measurement data comprises a measured signal to interference ratio of a signal of the base station.

11.   An apparatus as claimed in claim 10 wherein the means for determining
30 the interference characteristic is operable to determine the interference

characteristic in response to the measured signal to interference ratio and a known transmitted signal to interference ratio of the base station.

12. An apparatus as claimed in claim 11 wherein the interference
5 characteristic comprises an intra-cell interference ratio and the means for determining the interference characteristic is operable to compensate for an inter-cell interference component of the measured signal to interference ratio.

13. An apparatus as claimed in any of the previous claims 9 to 12 wherein
10 the signal measurement data comprises measured signal to interference ratios associated with the base station and a plurality of neighbouring base stations and the means for determining the interference characteristic is operable to determine the interference characteristic comprising an inter-cell interference measure in response to the measured signal to interference ratios associated
15 with the base station and the plurality of neighbouring base stations.

14. An apparatus as claimed in any previous claim wherein the means for determining the interference characteristic is operable to determine an interference bias associated with the subscriber unit and to determine the
20 interference characteristic in response to the bias.

15. An apparatus as claimed in any previous claim wherein the interference characteristic comprises an inter-cell interference factor.

25 16. An apparatus as claimed in claim 15 wherein the means for determining the interference characteristic is operable to determine the inter-cell interference factor in response to a path loss estimate of a radio communication link between the subscriber unit and the base station and path loss estimates of radio communication links between the subscriber unit and a
30 plurality of neighbour base stations.

17. An apparatus as claimed in any previous claim wherein the interference characteristic comprises an intra-cell interference factor.

18. An apparatus as claimed in claim 17 wherein the intra-cell interference
5 factor comprises an intra-cell orthogonality factor.

19. An apparatus as claimed in any previous claim wherein the means for determining the resource requirement is further operable to determine the resource requirement in response to a noise level.
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20. An apparatus as claimed in any previous claim wherein the resource requirement is a power requirement.

21. An apparatus as claimed in claim 20 wherein the resource requirement
15 is a relative power requirement.

22. An apparatus as claimed in any previous claim further comprising means for determining if the resource requirement is less than an available resource of the base station and for admitting access of the subscriber unit
20 only if the resource requirement is less than the available resource.

23. An apparatus as claimed in any previous claim wherein the resource requirement is associated with a downlink resource of the base station.

25 24. An apparatus as claimed in any previous claim wherein the radio communication system is a CDMA communication system.

25. A method of radio access management for a radio communication system, the method comprising the steps of:
30   receiving an access message from a subscriber unit (101) at a base station (103);

determining (111) an interference characteristic associated with the subscriber unit; and

determining (113) a resource requirement for achieving a desired signal to interference ratio in response to the interference characteristic.

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